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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,454	08/13/2003	Eugene P. Marsh	MI22-2382	2187
21567	7590	09/29/2005	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			VU, HUNG K	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/642,454	Applicant(s) MARSH, EUGENE P.	
	Examiner Hung Vu	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-37, 40-46 and 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-37, 40-46 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____                                                 |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____                                                              | 6) <input type="checkbox"/> Other: ____                                     |

### DETAILED ACTION

1. Per telephone communication on 08/26/05 between the Applicant's representative and the examiner regarding the status of missing claims 44 – 46 and 48 in the Office Action Paper No. 032005, the rejections are accordingly withdrawn. In view of a further consideration and/or search, however, a new rejection is set forth further below. This action is not made final.

#### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 29, 33-37, 40-46 and 48 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-10, 12-16 and 19 of U.S. Patent No. 5,990,559. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 29, 33-37, 40-46 and 48 are generic to claims 5-10, 12-16 and 19 of U.S. Patent No. 5,990,559. The claimed invention (claims 29, 33-37, 40-46 and 48) of the present application is a mere broader version of the claimed invention (claims 5-10, 12-16

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and 19) of the above identified U.S. Patent with similar intended scope, thus allowing unjustified or improper timewise extension of the “right to exclude” granted by a U.S. Patent No. 5,990,559.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 29, 33 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura (PN 6,232,629, of record).

Nakamura discloses a capacitor comprising,

a semiconductive substrate (102);

a roughened platinum layer (112) over the substrate, the roughened platinum layer comprising columnar platinum pedestals terminating in dome-shaped tops.

Regarding claim 33, Nakamura discloses the roughened platinum layer has a continuous surface characterized by columnar platinum pedestals, wherein the column platinum pedestals have heights greater than or equal to about one-third of a total thickness of the roughened platinum.

Note Figures 1 – 35 (especially Figures 2, 3A, 7 – 10D, and 24 – 32) of Nakamura.

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Regarding claim 37, Nakamura discloses the circuit further comprising an adhesion layer between the platinum layer and the substrate, the adhesion layer comprising at least one of IrO<sub>2</sub>, RuO<sub>2</sub>, RhO<sub>2</sub>, or OsO<sub>2</sub>.

4. Claims 40-41, 44 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Inaba et al. (H09-239891, of record).

Inaba et al. discloses, as shown in Figures (a) and (b), a capacitor comprising:

- a first capacitor electrode (3) (see Sections [0025] and [0026]);
- a second capacitor electrode (see Section [0028]);
- a dielectric layer (see Section [0027]) between the first and second capacitor electrodes;
- wherein at least one of the first and second capacitor electrodes comprise roughened platinum, the roughened platinum having a thickness of from about 400Å to about 1000Å and comprising platinum pedestals that are at least about 300Å tall and terminate in dome-shaped tops (see Section [0015]).

Regarding claim 41, Inaba et al. discloses the roughened platinum layer comprises hemispherical grain platinum.

Regarding claim 44, Inaba et al. discloses, as shown in Figures (a) and (b), a capacitor comprising:

- a first capacitor electrode (3) (see Sections [0025] and [0026]);
- a second capacitor electrode (see Section [0028]);

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a dielectric layer (see Section [0027]) between the first and second capacitor electrodes;  
wherein at least one of the first and second capacitor electrodes comprise roughened platinum, the roughened platinum having a continuous surface characterized by columnar platinum pedestals having heights greater than or equal to about one-third of a total thickness of the platinum layer;

the platinum pedestals terminating in dome-shaped tops (see Section [0015]).

Regarding claim 48, Inaba et al. discloses the platinum pedestals terminate in hemispherical tops.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-32 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (PN 6,232,629, of record).

Regarding claims 30 and 34-36, Nakamura discloses the claimed invention including the circuit as explained in the rejection above. Nakamura further disclose the roughened platinum layer is continuous over an area of the substrate. Nakamura does not disclose the value of the area of the substrate and the thickness of the pedestals. Although Nakamura does not teach the value of the area and the thickness of the pedestals, as that claimed by Applicants, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form

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the substrate having the desired area and the platinum pedestals having a desired thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 31, Nakamura discloses the platinum layer comprises hemispherical grain platinum.

Regarding claim 32, Nakamura discloses the claimed invention including the circuit as explained in the rejection above. Nakamura does not disclose the area of the substrate comprises a square. However, it would have been obvious to one of ordinary skill in the art to form the substrate having the shape of a square since it is well settled that, the change in shape of the substrate was a matter of design choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the substrate was significant. *In re Dailey*, 357 F.2d 669, 149 USPTO 47 (CCPA 1996).

6. Claims 42-43 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al. (H09-239891, of record).

Regarding claim 42, Inaba et al. discloses the claimed invention including the circuit as explained in the rejection above. Inaba et al. further disclose the roughened platinum layer is continuous over an area of the substrate. Inaba et al. does not disclose the value of the area of the substrate. Although Nakamura does not teach the value of the area, as that claimed by Applicants, however, it would have been obvious to one having ordinary skill in the art at the

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time the invention was made to form the substrate having the desired area, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 43, Inaba et al. discloses the claimed invention including the circuit as explained in the rejection above. Inaba et al. does not disclose the area of the substrate comprises a square. However, it would have been obvious to one of ordinary skill in the art to form the substrate having the shape of a square since it is well settled that, the change in shape of the substrate was a matter of design choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the substrate was significant. *In re Dailey*, 357 F.2d 669, 149 USPTO 47 (CCPA 1996).

Regarding claim 45, Inaba et al. discloses the claimed invention including the circuit as explained in the rejection above. Inaba et al. further disclose at least one of the first and second capacitor electrodes comprises the roughened platinum layer. Inaba et al. does not disclose both capacitor electrodes comprise platinum. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the circuit of Inaba et al. having both capacitor electrodes comprise platinum as that claimed by Applicant, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.



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Regarding claim 46, it is inherent that the second capacitor electrode of Inaba et al. forms on the roughened dielectric layer will have the roughened surface.

*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Tuesday-Friday 6:00-4:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Steven Loke can be reached on (571) 272-1657. The Central Fax Number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

August 30, 2005

A handwritten signature in black ink, appearing to read "Hung Vu", written over a horizontal line.

Hung Vu

Primary Examiner